INDEX TO VOLUME XXXIV

The asterisk * preceding the page number indicates an original article in the Journal. The letter T preceding the page number indicates a paper reported in the Transactions of the American Association of Neuropathologists. The letter D preceding the page number indicates a discussion of an original article or some other item published in the Journal. The letter B preceding the page number indicates a book review. Subject entries are made for all articles. Author entries are made for original articles and Society Transactions.

Abramsky, O., Teitelbaum, D., Webb, C., and Arnon, R., neuritogenic and encephalitogenic properties of the peripheral nerve basic proteins, *36
Abundant nuclear rods in adult-onset rod disease, *119
Acute and chronic phases of the cerebellar immunopathy induced by the LCM virus. an optical and E.M. study, T80
Acute cerebral infarction and hypotension: an ultrastructural study, T109
Adachi, M., Amsterdam, D., Brooks, S., and Volk, B. W., EM alterations of tissue cultures from human fetal brain incubated in E variant of EMC virus, T79
Adams, D. O., see Gilbert, R. W., T95
Additive oncogenic effects of avian sarcoma virus and ethylnitrosourea, T99
Adenovirus, human, retinal tumor induction by ocular inoculation in rats, *28
Adreno-leukodystrophy, a storage disease involving white matter, T82
Aguayo, A. J., see Bray, G. M., T112
—, see Bray, G. M., *517
—, see Ravens, J. R., T89
—, see Romine, J. S., T105
Aguilar, M. J., see Norris, Jr., F. H., *133
Alvord, Jr., C., Shaw, C. M., Hruby, S., Petersen, R., and Hsu, P., dissociation of possible correlates of experimental allergic encephalomyelitis in Rhesus monkeys, T96
—, see Leech, R. W., T92, *501
—, see Levine, S., *501
Ameliorative effect of immunosuppression in Theiler's virus infection, T82
Amsterdam, D., see Adachi, M., T79
Amyotrophic lateral sclerosis, following a case of recurrent lymphocytic meningitis with tubular particles, *133
Anatomic localization of narcotic analgesic binding in the brain, T101
Andrews, J. M., fine structure of the cervical spinal cord, ventral root and brachial nerves in the wobbler (wr) mouse, the, *12
—, further observations on the fine structure of wobbler (wr) mouse neurons, T106
Antanitus, D. S., see Choi, B. H., *507
Antibody induced morphologic changes of measles virus infected cells, T85
Aortography in hemorrhagic shock: exploration of potential hazards for the spinal cord, T89
Aoyagi, M., see Dodson, R. F., T109
Arnason, B. G. W., immunogenetic studies, T102
Arnon, R., see Abramsky, O., *36
Asbury, A. K., see Brown, M. J., T105
—, see Kelly, J. M., *388
Astrocyte-specific protein and neuroglial response to injury in the cerebral cortex of the rat, T78
Astrocytic process: a route between vessels and neurons following blood-brain barrier injury, *324
Astrom, K. E., see Hochberg, F. H., T88
Autoimmune response in guinea pigs sensitized with peripheral nervous system myelin, T98
Averill, D. R., see Gilles, F. H., T91
Avian sarcoma virus, induction of intracranial neoplasms in perinatal and adult rats, *340
Avins, L., Guroff, G., and Kuwabara, T., ultrastructural changes in rat optic nerve associated with hyperphenylalaninemia induced by para-chlorophenylalanine and phenylalanine, *178
Axelrod, F., see Pearson, J., *413
Axonal reaction, ultrastructure of, in cat red nucleus, *222
AY9944, effect on cultured nervous tissue, *375

Baker, R. N., Moore, K., and Murray, M., intravascular and perivascular changes following experimental cerebral microembolism, T90
Balentine, J. D., complex dense cytoplasmic masses in CNS nerve fibers following hyperbaric oxygenation, T90
Banker, B. Q., dermatomyositis of childhood. ultrastructural alterations of muscle and intramuscular blood vessels, *46
Barbiturate "protection" in cerebral infarction, T90
Barbosa, L. H., see Dubois-Dalcq, M., T86
—, see Dubois-Dalcq, M., T87
Baringer, J. R., recovery of herpes simplex virus from human sacral ganglion, T79
—, see Wolinsky, J. S., T80
Barron, K. D., Dentinger, M. P., Nelson, L.

R., and Mincy, J. E., ultrastructure of axonal reaction in red nucleus of cat, *222
—, Dentinger, M., Nelson, L., and Scheibly, M., cytological, histoautoradiographic and ultrastructural studies of axon reaction in feline red nucleus, T106
Basic proteins, peripheral nerve, neuritogenic and encephalitogenic properties of, *36
Batt, R., see McGrath, J., T78
Becker, D. P., see Hadfield, M. G., T92
Becker, L. E., Narayan, O., and Johnson, R. T., demonstration of papovavirus tumor antigen in brain tumors, T95
Behavior of the blood-brain barrier (BBB) in cerebral ischemia, T84
Bender, A. N., and Engel, W. K., light-cored dark particles in mitochondria of a patient with skeletal muscle and myocardial disease, T108
Berry, K., see Wisniewski, H. M., T108
Bignami, A., and Dahl, D., astrocyte-specific protein and neuroglial response to injury in the cerebral cortex of the rat, T78
—, see Bissell, M. G., T94
—, see VandenBerg, S. R., T94
—, see Vraa-Jensen, J., T94
Bigner, D. D., see Cloyd, M. W., T99
—, see Copeland, D. D., T100
—, see Copeland, D. D., *340
—, see Gilbert, R. W., T95
—, see Swenberg, J. A., T99
—, see Vick, N. A., T99
Biological properties of a canine distemper virus (CDV) isolate associated with demyelinating encephalomyelitis, T81
Bissell, M. G., Rubinstein, L. J., Bignami, A., and Herman, M. M., production of GFA protein in the absence of gliofibrillogenesis in a rat glioma maintained in organ culture systems, T94
Blood brain barrier injury, astrocytic process as a route between vessels and neurons in, *324
— vessels, intramuscular, alterations in dermatomyositis of childhood, *46
Bonilla, E., Graham, D., Schotland, D., and Gonatas, N., muscle changes in triethyltin intoxicated rats, T110
Borit, A., see Rubinstein, L. J., T76
Bornstein, M. B., Kibler, R. F., Shapira, R., experimental allergic encephalomyelitis: demyelinating activity of serum from rabbits inoculated with encephalitogenic peptide, T97
—, see Sheppard, R. D., T87
— —, see Zagoren, J. C., *375
Boyle, G., see Peress, N. S., T109
Bradley, W. G., and Madrid, R. E., clinical, physiological and pathological features of globular neuropathy, the, T105
Brady, R. O., see Max, S. R., T91
—, see Tanaka, J., *249
Brain ultrastructure in Reye's syndrome (encephalopathy and fatty alteration of the viscera), *425
Bray, G. M., and Aguayo, A. J., quantitative ultrastructural study of axons and Schwann cells in normal and dystrophic mice, a, T112
—, and Aguayo, A. J., quantitative ultrastructural studies of the axon-Schwann cell abnormality in spinal nerve roots from dystrophic mice, *517
—, see Romine, J. S., T105
Brent, R. L., see Duckett, S., T90
Brooks, B. R., Hochberg, F., Kornblith, P. L., Quindlen, E., and Richardson, Jr., E. P., morphologic and kinetic analysis of explant cultures of 100 CNS biopsy specimens, T112
Brooks, S., see Adachi, M., T79
Brostoff, S. W., see Carolo, D. J., T98
—, see Dal Canto, M., T97
—, see Iqbal, K., T101
Brown, M. J., Martin, J. R., and Asbury, A. K., painful diabetic neuropathy: quantitative morphometric studies, T105
Brownell, B., Greenham, L. W., Hill, T. J., and Peacock, D. B., measles virus in subacute sclerosing panencephalitis, T87
Budzilovich, G. N., see Feigin, I., *478
Burger, P. C., see Cloyd, M. W., T99
Burnstein, T., see Sheppard, R. D., T87
Byington, D. P., see Johnson, K. P., T86
—, see Raine, C. S., T86

Camenga, D. L., and Nathanson, N., immunopathologic component in experimental togavirus encephalitis, an, *492
Cammermeyer, J., specificity of experimentally produced ischemic neuronal changes, T111
Carbon monoxide-induced peripheral neuropathy in the rat: an ultrastructural study, T103
Carolo, D. J., Karkhanis, Y. D., Zeltner, J. E., Wisniewski, H. M., and Brostoff, S. W., autoimmune response in guinea pigs sensitized with peripheral nervous system myelin, T98
Carpenter, S., and Karpati, G., dermatomyositis in young patients, T108
Cell-associated strain of SSPE virus studied in organotypic CNS cultures, a, T87
Cellular immunity to solubilized tumor antigens in inbred rats bearing autochthonous virally induced gliomas, T95
Central nervous system in adreno-leukodystrophy (sex-linked Schilder's disease), the, T82
— pontine myelinolysis, T77
— — — lesion evolution and pathogenesis, T77
Cerebellum cultures, rat, scanning electron microscopy of *189
—, fine structure of staggerer, *1
Cerebral sponginess and GM_3 gangliosidosis: ultrastructure and probable pathogenesis, *249
Chang, L. W., Dudley, Jr., A. W., and Katz, J., effects of halothane on the nervous system—an ultrastructural study, T100
Chen, S. M., see Zagoren, J. C., *375
Chen, W. F., see Duckett, S., T83
Chio, B. H., Antanitus, D. S., and Lapham,

L. W., Fluoresence histochemical and ultrastructural studies of locus coeruleus of human fetal brain, *507
Choroid plexus isografts in rats, *335
Chou, S. M., Lorente, L., and Nugent, R. G., hypertrophic astroglia with arrested mitosis in central pontine myelinolysis (CPM), †77
—, Oguchi, K., Holden, E. M., and Tarsy, D., unusual ultrastructural findings in PML (progressive multifocal leukoencephalopathy), †81
Chronic focal measles infections in brain of immunosuppressed adult hamsters, †86
— relapsing polyneuropathy, †104
— subacute sclerosing panencephalitis in the hamster—an ultrastructural study, †86
Cilia in the adult human ependyma, †111
Cipolloni, P. B., Kemper, T. L., and Williams, M., effect of processing on the human brain, the, †76
Clinical, physiological and pathological features of globular neuropathy, the, †105
Cloyd, M. W., Burger, P. C., and Bigner, D. D., virus-like particles observed in rat central nervous system (CNS) tumors induced with Bratislava-77 avian sarcoma virus (B77-ASV), †99
Co, G., see Ito, U., †84
Colton, R. P., see Norris, Jr., F. H., *133
Coma, irreversible, neuropathological findings in, *295
Complement independence of experimental allergic neuritis (EAN), †98
Complex dense cytoplasmic masses in CNS nerve fibers following hyperbaric oxygenation, †90
Confer, A. W., Kahn, D. E., and Koestner, A., biological properties of a canine distemper virus (CDV) isolate associated with demyelinating encephalomyelitis, †81
Control of cerebral blood flow by pial arterioles, †83
Cook, S., see Dowling, P., †80
Copeland, D. D., Vogel, F. S., and Bigner, D. D., induction of intracranial neoplasms by the inoculation of avian sarcoma virus in perinatal and adult rats, the, *340
—, Vogel, F. S., Self, D. J., and Bigner, D. D., incidence and morphology of intracranial tumors induced by the Bratislava-77 strain of avian sarcoma virus in perinatal and adult rats, †100
Cornblath, M., see Max, S. R., †91
—, see Tanaka, J., *249
Crain, S. M., see Liveson, J. A., †107
Cravioto, H., Morantz, R., Ornovsky, F., and Ransohoff, J., effects of immunosuppression (thymectomy-ALS) in experimental brain tumor induction, †93
Cremer, N. E., see Norris, Jr., F. H., *133
Crumpacher, C., see Hochberg, F. H., †88
Cullen, R., see Popoff, N., †111
Cysteine-s-sulfate: brain damaging metabolite in sulfite oxidase deficiency, *167
Cytological, histoautoradiographic and ultrastructural studies of axon reaction in feline red nucleus, †106

Dahl, D., see Bignami A., †78
Dal Canto, M., Johnson, A. B., and Brostoff, S. W., experimental allergic neuritis: immunoglobulin content and ultrastructure of the lymphoid cells binding P2 myelin basic protein, †97
—, see Raine, C. S., †96
Dancis, J., see Pearson, J., *413
"Dark" neurons and red neurons: ultrastructural evaluation, †84
Davis, L. E., and Johnson, R. T., experimental viral labyrinthitis, †79
Degeneration of oligodendroglia in the CNS of rats treated with AY9944 or Triparanol, †101
de Gubareff, T., see Olney, J. W., *167
Del Cerro, M., Monjan, A. A., and Nathanson, N., acute and chronic phases of the cerebellar immunopathy induced by the LCM virus. an optical and E. M. study, †80
Dembitzer, H. M., see Hirano, A., *1
—, see Hirano, A., †102
Demonstration of papovavirus tumor antigen in brain tumors, †95
Demyelinating changes at the Schmidt-Lantermann cleft: a case report of polyneuropathy, †103
Dentinger, M., see Barron, K. O., †106
Dentinger, M. P., see Barron, K. D., *222
Dermatomyositis in young patients, †108
— of childhood. ultrastructural alterations of muscle and intramuscular blood vessels, *46
Diamond, E. L., see Walker, A. E., *295
Dissociation of possible correlates of experimental allergic encephalomyelitis in Rhesus monkeys, †96
Do neurological signs occur in experimental allergic encephalomyelitis in the absence of inflammatory lesions of the central nervous system?, *501
Dodson, R. F., Meyer, J. S., Aoyagi, M., Hartmann, A., and Tagashira, Y., acute cerebral infarction and hypotension: an ultrastructural study, †109
Dolman, C. L., new disease, related to Unverricht myoclonus epilepsy, a, †76
Dowling, P., and Cook, S., IgM cytomegalovirus (CMV) antibodies in Guillain Barré syndrome (GBS), †80
Drnovsky, F., see Cravioto, H., †93
Dubois-Dalcq, M., Reese, T. S., Barbosa, L. H., and Landis, D. M. D., freeze-fracture study of Vero cells infected with SSPE virus, †87
—, Worthington, K., Gutenson, O., and Barbosa, L. H., immunoperoxidase (IP) labeling of subacute sclerosing panencephalitis (SSPE) virus antigen in hamster acute encephalitis, †86,
Duckett, S., Brent, R. L., and Jensch, R. P., immunologically-induced congenital hydrocephalus, †90
—, Goldsmith, H. S., and Chen, W. F., prevention of cerebral infarction in the dog by intact omentum, the, †83
Dudley, Jr., A. W., see Chang, L. W., †100

Duma, R. J., see Martinez, A. J., †76
Dyck, P. J., and Yao, J., preliminary results of focal gamma irradiation of cytons of peripheral neurons resulting in segmental demyelination of their shielded distal axons, †104
—, see Ohnishi, A., †103
—, see Pollock, M., †109
Dyckman, J., see Pogacar, S., †110
Dysautonomia, familial, sural nerve in, *413
Dystrophic mice, quantitative ultrastructural studies in spinal nerve roots from, *531

Early changes in the striatum of rats after portocaval anastomosis; an ultrastructural and histofluorescence study, †78
Effect of heparin on endothelial alterations in the ischemic common carotid artery of the rabbit: SEM observations, the, †85
— — hypocholesterolemic drug AY9944 on cultured nervous tissue: morphologic and biochemical studies, *375
— — processing on the human brain, the, †76
Effects of energy deprivation on Wallerian degeneration in vitro, †96
— — halothane on the nervous system—An ultrastructural study, †100
— — immunosuppression (thymectomy-ALS) in experimental brain tumor induction, †93
Electron microscopic study of hyaline inclusions (pseudopsammoma bodies) in meningiomas, †92
Elizan, T. S., see Schwartz, J., *359
Ellis, W. G., see Hoshino, T., *263
EM alterations of tissue cultures from human fetal brain incubated in E variant of EMC virus, †79
Encephalitis, experimental allergic, do neurologic signs occur in absence of inflammatory lesions, *501
—, — togavirus, immunopathologic component in, *492
Encephalomyelitis, chronic experimental allergic, progressive demyelination and reparative phenomena in, *209
Encephalopathy, childhood lead, neuropathologic changes following, *445
Endotoxin-induced neonatal telencephalalic leukoencephalopathy, †91
Energy metabolism of acutely injured spinal cord of cat, †84
Engel, W. K., and Oberc, M. A., abundant nuclear rods in adult-onset rod disease, *119
—, see Bender, A. N., †108
Experimental allergic encephalomyelitis, chronic, progressive demyelination and reparative phenomena in, *209
— — —, do neurologic signs occur in absence of inflammatory lesions, *401
— — neuritis: immunoglobulin content and ultrastructure of the lymphoid cells binding P2 myelin basic protein, †97
— amebic meningoencephalitis due to free-living amebas other than Naegleria, †76
— meningoencephalitis in mice produced by 6/94 virus, a new strain of the parainfluenza type I group, †79
— methyl n-butyl ketone neuropathy, †103
— model for the study of chronic recurrent demyelination, an, †98
— mouse testicular teratoma as a model for neuroepithelial neoplasia and differentiation, an, †94
— viral labyrinthitis, †79

Familial amyotrophic lateral sclerosis with spinocerebellar degeneration and peripheral neuropathy, †110
Feigin, I., and Budzilovich, G. N., occurrence and characteristics of non-myelinated neuromas within central nervous tissues, the, *478
Feldman, L. A., see Sheppard, R. D., †87
Fetal metachromatic leukodystrophy ultrastructure, cell isolation, chemical pathology and in vitro enzyme replacement, †91
Fine structural differences in human muscle fiber types, †107
— structure of amyloid in a pituitary adenoma, the, †111
— — hyaline inclusions (pseudopsammoma bodies) in meningiomas, the, *282
— — staggerer cerebellum, the, *1
— — the cervical spinal cord, ventral root and brachial nerves in the wobbler (wr) mouse, the, *12
Fiorino, P., see Hochberg, F. H., †88
Fishman, P., see Max, S. R., †91
Fluorescence histochemical and ultrastructural studies of locus coeruleus of human fetal brain, *507
Foley, J. M., see Kurent, J. E., †110
Forno, L. S., and Rivera, L., central pontine myelinolysis, †77
Frank, M., see Gerwin, R., †98
Freeze-fracture study of Vero cells infected with SSPE virus, †87
Friedman, H. M., Gilden, D. H., Roosa, R. A., and Nathanson, N., effect of neonatal thymectomy on Tamiami virus-induced central nervous system disease, the, *159
Further observations on the fine structure of wobbler (wr) mouse neurons, †106
— studies on the ultrastructural substratum of brain tumor reproduction, †93

Gangliosidosis, GM_3, ultrastructure and probable pathogenesis, *249
Garcia, J. H., Kamijyo, Y., Kalimo, H., Tanaka, J., Viloria, J. E., and Trump, B. F., "dark" neurons and red neurons: ultrastructural evaluation, †84
—, see Max, S. R., †91
—, see Tanaka, J., *249
Gemistocytic astrocytes in gliomas: an autoradiographic study, *263
Genesis of rosette formation in a human ependymoma maintained in organ culture systems, †94
Genetically-determined defects of PNS myelination in the mouse, †104
Georgsson, G., see Panitch, H., †81
Gertz, S. D., Rennels, M. L., and Nelson, E., effect of heparin on endothelial altera-

tions in the ischemic common carotid artery of the rabbit: SEM observations, the, †85
Gerwin, R., Frank, M., complement independence of experimental allergic neuritis (EAN), †98
Gilbert, R. W., Adams, D. O., and Bigner, D. D., in cellular immunity to solubilized tumor antigens in inbred rats bearing autochthonous virally induced gliomas, †95
Gilden, D. H., Rorke, L., Tanaka, R., Lief, F., and Koprowski, H., experimental meningoencephalitis in mice produced by 6/94 virus, a new strain of the parainfluenza type I group, †79
—, see Friedman, H. M., *159
Gilles, F. H., Averill, D. R., and Kerr, C. S., endotoxin-induced neonatal telencephalic leukoencephalopathy, †91
Gliomas, gemistocytic astrocytes in, *263
— induced by avian sarcoma virus (ASV): early and sequential structural events of the neoplastic transformation in vivo, †99
GM3 gangliosidosis: a new lipid storage disease with a defect in ganglioside biosynthesis, †91
— —, ultrastructure and probable pathogenesis, *249
Goebel, H. H., and Zeman, W., infantile spinal rhizopathy-new entity or variant of Werdnig-Hoffmann disease?, †107
Goldsmith, H. S., see Duckett, S., †83
Gonatas, N., see Bonilla, E., †110
Gonatas, N. K., see Graham, D. I., *401
—, see Howard, J. C., †97
Gotto, A. M., see Hoff, H. F., †89
Graham, D., see Bonilla, E., †110
Graham, D. I., Kim, S. U., Gonatas, N. K., and Guyotte, L., neurotoxic effects of triethyltin (TET) sulfate on myelinating cultures of mouse spinal cord, the, *401
Green, B., see Khan, T., †84
Greenham, L. W., see Brownell, B., †87
Griffin, J., see Price, D. L., †106
Grover, N., see Pearson, J., *413
Grunnet, M. L., and Petajan, J. H., carbon monoxide-induced peripheral neuropathy in the rat: an ultrastructural study, †103
—, and Satovick, R. M., unusual distribution of central nervous system pathology in a human following carbon monoxide exposure, an, †109
Guroff, G., see Avins, L., *178
Gutenson, O., see Dubois-Dalcq, M., †86
Guyotte, L., see Graham, D. I., *401

Hadfield, M. G., Ward, J. D., Becker, D. P., and Lovings, E. T., endothelial fenestrations and other vascular alterations in primary melanoma of the central nervous system, †92
Hall, T. L., see Swenberg, J. A., †99
Hamburgh, M., see Weinberg, H. J., †104
Hankinson, H., see Nielsen, S. L., †90
Harbach, P. R., see Swenberg, J. A., †99
Hartmann, A., see Dodson, R. F., †109
Herman, M. M., see Bissell, M. G., †94
—, see VandenBerg, S. R., †94
—, see Vraa-Jensen, J., †94
Herndon, R. M., and Weiner, L. P., remyelination following mouse hepatitis virus infection, †96
Herpes simplex virus encephalitis in suckling mice: ultrastructural studies of virus replication, *359
Hill, T. J., see Brownell, B., †87
Hiller, J., see Pearson, J., †101
Hirano, A., and Dembitzer, H. M., fine structure of staggerer cerebellum, the, *1
—, and Dembitzer, H. M., on the development of the dendritic spine, †102
—, see Kurent, J. E., †110
—, see Roy, S., †111
Hochberg, F. H., Richardson, Jr., E. P., Astrom, K. E., Lehrich, Fiorino, P., and Crumpacher, C., mononucleosis-associated SSPE, †88
Hochberg, F., see Brooks, B. R., †112
Hoff, H. F., Gotto, A. M., and Meyer, J. S., localization of low density lipoproteins in atherosclerotic extra- and intracranial arteries from normo- and hyperlipemics, †89
Hoff, J. T., see Nielsen, S. L., †90
Holden, E. M., see Chou, S. M., †81
Hollander, J. L., see Parker, Jr., J. C., †92
Hoshino, T., Wilson, C. B., and Ellis, W. G., gemistocytic astrocytes in gliomas: an autoradiographic study, *263
Howard, J. C., and Gonatas, N. K., inhibition of experimental allergic encephalomyelitis in rats severely depleted of T cells, †97
Hruby, S., see Alvord, Jr., E. C., †96
Hsu, P., see Alvord, Jr., E. C., †96
Human adenovirus-induced cerebellar neoplasms, †93
Hunt, W. E., see Vise, W. M., *324
—, see Vice, W. M., †82
Hyperphenylalaninemia, parachlorophenylalanine and phenylalanine induced, ultrastructural changes in rat optic nerve, *178
Hypertrophic astroglia with arrested mitosis in central pontine myelinolysis (CPM), †77

IgM cytomegalovirus (CMV) antibodies in Guillain Barré syndrome (GBS), †80
Immunogenetic studies, †102
Immunologic studies, †102
Immunologically-induced congenital hydrocephalus, †90
Immunopathologic component in experimental togavirus encephalitis, an, *492
Immunoperoxidase (IP) labeling of subacute sclerosing panencephalitis (SSPE) virus antigen in hamster acute encephalitis, †86
Incidence and morphology of intracranial tumors induced by the Bratislava-77 strain of avian sarcoma virus in perinatal and adult rats, †100
Inclusion, hyaline, fine structure in meningiomas, *282
Induction of intracranial neoplasms by the inoculation of avian sarcoma virus in per-

inatal and adult rats, the, *340
Infantile spinal rhizopathy-new entity or variant of Werdnig-Hoffman disease?, †107
Inhibition of experimental allergic encephalomyelitis in rats severely depleted of T cells, †97
Intrathecal water, neuropathologic effects of,
Intravascular and perivascular changes following experimental cerebral microembolism, †90
Iqual, K., Wisniewski, H. M., Brostoff, S. W., Liwnicz, B., Shelanski, M., and Terry, R. D., new neuronal protein from brains with neurofibrillary changes, †101
Irreversible coma, neuropathological findings in, *295
Ito, U., Co, G., Spatz, M., and Klatzo, I., behavior of the blood-brain barrier (BBB) in cerebral ischemia, †84

Jensch, R. P., see Duckett, S., †90
Johnson, A. B., see Dal Canto, M., †97
—, see Raine, C. S., †96
Johnson, K. P., and Byington, D. P., chronic focal measles infections in brain of immuno-suppressed adult hamsters, †86
—, see Raine, C. S., †86
Johnson, R. T., see Becker, L. E., †95
—, see Davis, L. E., †79
Jones, M., Taylor, W., and Sculthorpe, A., methylazozymethanol neurotoxicity: effects on cerebellar lipids and proteins in the postnatal mouse, †101
Joseph, B. S., and Oldstone, M. B. A., "capping" of measles antigens on cultured human cells: functional considerations, †86
—, see Lampert, P. W., †85

Kahn, D. E., see Confer, A. W., †81
Kalimo, H., see Garcia, J. H., †84
Kamijyo, Y., see Garcia, J. H., †84
—, see Max, S. R., †91
—, see Tanaka, J., *249
Karkhanis, Y. D., see Carolo, D. J., †98
Karpati, G., see Carpenter, S., †108
Katz, J., see Chang, L. W., †100
Kelly, J. M., Asbury, A. K., and King, J. S., neuropathologic effects of intrathecal water, *388
Kemper, T., see Pogacar, S., †110
Kemper, T. L., see Cipolloni, P. B., †76
Kerr, C. S., see Gilles, F. H., †91
Kepes, J. J., electron microscopic study of hyaline inclusions (pseudopsammoma bodies) in meningiomas, †92
—, fine structure of hyaline inclusions (pseudopsammoma bodies) in meningiomas, the, *282
Khan, T., Green, B., and Raimondi, A. J., energy metabolism of acutely injured spinal cord of cat, †84
Kibler, R. F., studies on the biochemistry of demyelinative disease, †102
—, see Bornstein, M. B., †97
Kies, M. W., see Webster, H., deF., †95
Kilham, L., see Margolis, G., †88
—, see Wolinsky, J. S., †80
Kim, S. U., and Rizzuto, N., neuroaxonal degeneration induced by sodium diethyldithiocarbamate in cultures of central nervous tissue, *531
—, response of mouse CNS cultures to hypoxia, the, †84
—, see Graham, D. I.,
King, J. S., see Kelly, J. M., *388
Klatzo, I., see Ito, U., †84
Koestner, A., see Confer, A. W., †81
Koprowski, H., see Gilden, D. H., †79
Kornblith, P. L., see Brooks, B. R., †112
Kornfeld, M., early changes in the striatum of rats after portocaval anastomosis; an ultrastructural and histofluorescence study, †78
Krigman, M. R., and Somjen, G. G., perturbation of protein synthesis in experimental Minimata disease: an autoradiographic study in the rat, †100
Kurent, J. E., Hirano, A., and Foley, J. M., familial amyotrophic lateral sclerosis with spinocerebellar degeneration and peripheral neuropathy, †110
Kuwabara, T., see Avins, L., *178

Lampert, P. W., Joseph, B. S., and Oldstone, M. B., antibody induced morphologic changes of measles virus infected cells, †85
—, see Powell, H., †82
Landis, D. M. D., see Dubois-Dalcq, M., †87
Lapham, L. W., See Choi, B. H., *507
Lead encephalopathy, childhood, neuropathologic changes following, *445
Lee, J. C., further studies on the ultrastructural substratum of brain tumor reproduction, †93
Leech, R. W., and Alvord, Jr., E. C., Wallerian degeneration in the premature human, †92
Lehrich, J. R., possible role of viruses, †102
Lerich, see Hochberg, F. H., †88
Leukodystrophy in the dog, a, †78
Levine, S., Sowinski, R., Shaw, C-M, and Alvord, Jr., E. C., do neurological signs occur in experimental allergic encephalomyelitis in the absence of inflammatory lesions of the central nervous system?, *501
—, and Sowinski, R., choroid plexus isografts in rats, *335
Lief, F., see Gilden, D. H., †79
Lipid content of human peripheral (sciatic) nerve by age group, †109
Lipton, H. L., ameliorative effect of immunosuppression in Theiler's virus infection, †82
Liss, L., proposal to correlate "attack behavior" with histopathology, a, †110
—, see Vice, W. M., †82
—, see Vise, W. M., *324
Liveson, J. A., Petersen, E. R., and Crain, S. M., regeneration in vitro of previously frozen adult mammalian striated muscle coupled with fetal spinal cord, †107
Liwnicz, B., see Iqbal, K., †101
Localization of low density lipoproteins in atherosclerotic extra- and intracranial arter-

ies from normo- and hyperlipemics, †89
Locus coeruleus, human fetal, flourescence histochemical and ultrastructural studies of, *507
Lorente, L., see Chou, S. M., †77
Lovings, E. T., see Hadfield, M. G., †92
Ludwin, S., see VandenBerg, S. R., †94
Lymphocytic meningitis, recurrent, tubular particles in a case followed by amyotrophic lateral sclerosis, *133

Maclaren, N. K., see Max, S. R., †91
Madrid, R. E., see Bradley, W. G., †105
Malinin, T., see Popoff, N., †111
Mandybur, T. I., see Niklowitz, W. J., *445
Margolis, G., and Kilham, L., spontaneous hemorrhagic necrosis of the central nervous system of fetal hamsters, †88
—, see Schwartz, W. M., †89
—, see Wolinsky, J. S., †80
Markowitz, S. M., see Martinez, A. J., †76
Martin, J. R., see Brown, M. J., †105
Martinez, A. J., Markowitz, S. M., and Duma, R. J., experimental amebic meningoencephalitis due to free-living amebas other than Naegleria, †76
Mathews, T., and Moossy, J., central pontine myelinolysis: lesion evolution and pathogenesis, †77
Matovich, V. B., see Watanabe, I., †103
Matthieu, M-J., see Reier, P. J., *465
Max, S. R., Maclaren, N. K., Brady, R. O., Fishman, P., Tallman, J., Garcia, J. H., Cornblath, M., Tanaka, J., Viloria, J. E., and Kamijyo, Y., GM3 gangliosidosis: a new lipid storage disease with a defect in ganglioside biosynthesis, †91
—, see Tanaka, J., *249
McCloskey, J. J., see Parker, Jr., J. C., †92
McFarlin, D. E., immunologic studies, †102
McGrath, J., and Batt, R., leukodystrophy in the dog, a, †78
McKhann, G. M., Poduslo, S., Price, D. L., Tennekoon, G., Miller, K., Weiner, L., and Silberberg, D., fetal metachromatic leukodystrophy ultrastructure, cell isolation, chemical pathology and in vitro enzyme replacement, †91
McLaren, N. K., see Tanaka, J., *249
McLaurin, R. L., see Partin, J. C., *425
McLeod, J. G., see Prineas, J. W., †104
Measles virus in subacute sclerosing panencephalitis, †87
Mendell, J. R., see Saltis, L. M., †107
Meningiomas, fine structure of hyaline inclusions in, *282
Methylazozymethanol neurotoxicity: effects on cerebellar lipids and proteins in the postnatal mouse, †101
Meyer, J. S., see Dodson, R. F., †109
—, see Hoff, H. F., †89
Miles, M. L., see Mirra, S. S., †88
Miller, K., see McKhann, G. M., †91
Mincy, J. E., see Barron, K. D., *222
Mirra, S. S., Miles, M. L., and Takei, J., paramyxovirus-like particles in three variants of multiple sclerosis, †88
Misra, C. H., see Olney, J. W., *167
Monjan, A. A., see Del Cerro, M., †80
Mononucleosis-associated SSPE, †88
Moore, K., see Baker, R. N., †90
Moossy, J., see Mathews, T., †77
Morantz, R., see Cravioto, H., †93
Morphologic and kinetic analysis of explant cultures of 100 CNS biopsy specimens, †112
Morphometric studies to improve glutaraldehyde fixation of human nerve, †103
Mortara, R. H., see Parker, Jr., J. C., †92
Moseley, J., see Walker, A. E., *295
Mukai, N., and Murao, T., human adenovirus-induced cerebellar neoplasms, †93
—, and Murao, T., retinal tumor induction by ocular inoculation of human adenovirus in 3-day-old rats, *28
Multiple sclerosis: ultrastructural and immunohistochemical studies of plaques from a chronic relapsing case, †96
Murao, T., see Mukai, N., *28
—, see Mukai, N., †93
Murray, M., see Baker, R. N., †90
Muscle ultrastructure, in dermatomyositis of childhood, *46
Myelin deficiency in hereditary pituitary dwarfism: a biochemical and morphological study, *465
Myxovirus-like particles in untreated undifferenciated Burkitt's type lymphoma, †111

Naitove, A., see Schwartz, W. M., †89
Narayan, O., see Becker, L. E., †95
Nathanson, N., see Camenga, D. L., *492
—, see Del Cerro, M., †80
—, see Friedman, H. M., *159
—, see Panitch, H., †81
Nelson, D. H., see Schober, R., †111
Nelson, E., see Gertz, S. D., †85
Nelson, L., see Barron, K. O., †106
Nelson, L. R., see Barron, K. D., *222
Neuritogenic and encephalitogenic properties of the peripheral nerve basic proteins, *36
Neuroaxonal degeneration induced by sodium diethyldithiocarbamate in cultures of central nervous tissue, *531
Neurofibrillary changes following childhood lead encephalopathy. case report, *445
Neuromas, nonmyelinated, occurrence and characteristics in central nervous tissues, *478
Neuropathologic effects of intrathecal water, *388
Neuropathological findings in irreversible coma, the, *295
Neuropathology of the Rubinstein-Taybi syndrome, †110
Neurotoxic effects of triethyltin (TET) sulfate on myelinating cultures of mouse spinal cord, the, *401
New disease, related to Unverricht myoclonus epilepsy, a, †76
New neuronal protein from brains with neurofibrillary changes, †101
Nielsen, S. L., Smith, A. L., Hoff, J. T., and Hankinson, H., barbiturate "protection" in cerebral infarction, †90

—, and Wilson, C. B., ultrastructure of a "pineocytoma", *148
Niklowitz, W. J., and Mandybur, T. I., neurofibrillary changes following childhood lead encephalopathy. case report, *425
Norenberg, M. D., ultrastructural and enzyme histochemical studies in experimental portal-systemic encephalopathy, T78
Norris, Jr., F. H., Aguilar, M. J., Colton, R. P., Oldstone, M. B. A., and Cremer, N. E., tubular particles in a case of recurrent lymphocytic meningitis followed by amyotrophic lateral sclerosis, *133,
Nugent, R. G., see Chou, S. M., T77

Oberc, M. A., see Engel, W. K., *119
O'Brien, J., see Powell, H., T82
Occurrence and characteristics of non-myelinated neuromas within central nervous tissues, the, *478
Oguchi, K., see Chou, S. M., T81
Ohnishi, A., and Dyck, P. J., morphometric studies to improve glutaraldehyde fixation of human nerve, T103
Oldstone, M. B. A., see Joseph, B. S., T86
—,see Lampert, P. W., T85
—, see Norris, Jr., F. H., *133
Olney, J. W., Misra, C. H., and de Gubareff, T., cysteine-s-sulfate: brain damaging metabolite in sulfite oxidase deficiency, *167
On the development of the dendritic spine, T102
Optic nerve, rat, ultrastructural changes in optic nerve associated with para-chlorophenylalanine and phenylalanine induced hyperphenylalaninemia, *178

Paa, D., see Powell, H., T82
Painful diabetic neuropathy: quantitative morphometric studies, T105
Palomino, L., see Ravens, J. R., T89
Palsson, P., see Panitch, H., T81
Panitch, H., Georgsson, G., Palsson, P., Petursson, G., and Nathanson, visna and EAE: comparative pathology and pathogenesis, T81
Paramyxovirus-like particles in three variants of multiple sclerosis, T88
Parker, Jr., J. C., Mortara, R. H., McCloskey, J. J., and Hollander, J. L., supratentorial gliomas in children, T92
Partin, J. C., Partin, J. S., Schubert, W. K., and McLaurin, R. L., brain ultrastructure in Reye's syndrome (encephalopathy and fatty alteration of the viscera), *425
Partin, J. S., see Partin, J. C., *425
Peacock, D. B., see Brownell, B., T87
Pearson, J., Dancis, J., Axelrod, F., and Grover, N., sural nerve in familial dysautonomia, the, *413
—, Hiller, J., and Simon, E., anatomic localization of narcotic analgesic binding in the brain, T101
Peress, N. S., and Boyle, G., lipid content of human peripheral (sciatic) nerve by age group, T109
Peripheral nerve basic proteins, neuritogenic and encephalitogenic properties of,*36
— — morphometry in myotonic dystrophy, T109
—neuropathy in the Gunn strain of rats, T105
Petajan, J. H., see Grunnet, M. L., T103
Petersen, E. R., see Liveson, J. A., T107
Petersen, R., see Alvord, Jr., E. C., T96
Petursson, G., see Panitch, H., T81
Pineocytoma, ultrastructure of, *148
Pituitary dwarfism, myelin deficiency in,
Poduslo, S., see McKhann, G. M., T91
Pogacar, S., Dyckman, J., and Kemper, T., neuropathology of the Rubinstein-Taybi syndrome, T110
Pollock, M., and Dyck, P. J., peripheral nerve morphometry in myotonic dystrophy, T109
Popoff, N., Malinin, T., and Cullen, R., myxovirus-like particles in untreated undifferenciated Burkitt's type lymphoma, T111
Possible role of viruses, T102
Powell, H., Tindall, R., Schultz, P., Paa, D. O'Brien, J., and Lampert, P. W., adrenoleukodystrophy, a storage disease involving white matter, T82
Powers, J. M., see Schaumburg, H. H., T82
Preliminary results of focal gamma irradiation of cytons of peripheral neurons resulting in segmental demyelination of their shielded distal axons, T104
Presidential address: Schilder's disease—what is it?. T102
Preskorn, S. H., see Watanabe, I., T103
Prevention of cerebral infarction in the dog by intact omentum, the, T83
Price, D. L., Griffin, J., and Young, A. B., quantitative EM autoradiographic study of glycine-labeled synapses in the spinal cord, a, T106
—, see McKhann, G. M., T91
—, see Skoff, R. P., T83
Prineas, J. W., and McLeod, J. G., chronic relapsing polyneuropathy, T104
Production of GFA protein in the absence of gliofibrillogenesis in a rat glioma maintained in organ culture systems, T94
Progressive demyelination and reparative phenomena in chronic experimental allergic encephalomyeitis, *209
Proliferation of reactive astrocytes in degenerating rat optic nerve, T83
Proposal to correlate "attack behavior" with histopathology, T110

Quantitative EM autoradiographic study of glycine-labeled synapses in the spinal cord, a, T106
—ultrastructural studies of the axon-Schwann cell abnormality in spinal nerve roots from dystrophic mice, *517
— — study of axons and Schwann cells in normal and dystrophic mice, a, T112

Raimondi, A. J., see Kahn, T., T84
Raine, C. S., Byington, D. P., and Johnson, K. P., chronic subacute sclerosing panen-

cephalitis in the hamster-an ultrastructural study, †86
—, Schaumburg, H. H., Snyder, D. H., Dal Canto, M., Johnson, A. B., and Suzuki, K., multiple sclerosis: ultrastructural and immunohistochemical studies of plaques from a chronic relapsing case, †96
—, see Schaumburg, H. H., †82
—, see Sheppard, R. D., †87
—, see Snyder, D. H., †98
—, see Snyder, D. H., *209
—, see Weinberg, H. J., †104
Ransohoff, J., see Cravioto, H., †93
Rats, choroid plexus isografts in, *335
Ravens, J. R., Aguayo, J. A., and Palomino, L., vascular changes in the senile brain, †89
Recovery of herpes simplex virus from human sacral ganglion, †79
Red nucleus, cat, ultrastructure of axonal reaction in, *222
Reese, T. S., see Dubois-Dalcq, M., †87
Regeneration in vitro of previously frozen adult mammalian striated muscle coupled with fetal spinal cord, †107
Reier, P. J., Matthiew, J-M., and Zimmerman, A. W., myelin deficiency in hereditary pituitary dwarfism: a biochemical and morphological study, *465
—, see Webster, H., deF., †95
Remyelination following mouse hepatitis virus infection, †96
Rengachary, S., see Watanabe, I., †103
Rennels, M. L., see Gertz, S. D., †85
Response of mouse CNS cultures to hypoxia, the, †84
Retinal tumor induction by ocular inoculation of human adenovirus in 3-day-old rats, *28
Reversal of a hereditary myopathic lesion (MED) by transplantation of affected muscle, †107
Reye's syndrome, brain ultrastructure in, *425
Richardson, Jr., E. P., presidential address: Schilder's disease—what is it?, †102
—, see Brooks, B. R., †112
—, see Hochberg, F. H., †88
Rivera, L., see Forno, L. S., †77
Rizzuto, N., see Kim, S. U., *531
Rod disease, adult onset, nuclear rods in, *119
Rods, nuclear, abundant in adult-onset rod disease, *119
Romine, J. S., Bray, G. M., and Aguayo, A. J., Schwann cell multiplication in crush injured unmyelinated nerves, †105
Roosa, R. A., see Friedman, H. M., *159
Rorke, L., see Gilden, D. H., †79
Rose, A. L., and Wisniewski, H. M., peripheral neuropathy in the Gunn strain of rats, †105
Rosenblum, W. I., control of cerebral blood flow by pial arterioles, †83
Roy, S., Hirano, A., and Zimmerman, H. M., cilia in the adult human ependyma, †111
Rubinstein, L. J., Urich, H., and Borit, A., striatonigral degenerations. putaminal pigments and nosology, the, †76
—, see Bissell, M.G., †94
—, see Schober, R., †111
—, see Vraa-Jensen, J., †94

Saltis, L. M., and Mendell, J. R., fine structural differences in human muscle fiber types, †107
Sato, T., see Watanabe, I., †103
Satovick, R. M., see Grunnet, M. L., †109
Scanning electron microscopy of organotypic rat cerebellum cultures, *189
Schaumburg, H. H., Powers, J. M., Raine, C. S., and Suzuki, K., central nervous system in adreno-leukodystrophy (sex-linked Schilder's disease), the, †82
—, see Raine, C. S., †96
—, see Spencer, P. S., †103
Scheibly, M., see Barron, K. O., †106
Schlaepfer, W. W., effects of energy deprivation on Wallerian degeneration in vitro, †96
Schober, R., Nelson, D. H., and Rubinstein, L. J., fine structure of amyloid in a pituitary adenoma, the, †111
Schotland, D., see Bonilla, E., †110
Schubert, W. K., see Partin, J. C., *425
Schultz, P., see Powell, H., †82
Schwann cell multiplication in crush injured unmyelinated nerves, †105
Schwartz, J., and Elizan, T. S., herpes simplex virus encephalitis in suckling mice: ultrastructural studies of virus replication, *359
Schwartz, W. M., Naitove, A., and Margolis, G., aortography in hemorrhagic shock: exploration of potential hazards for the spinal cord, †89
Sculthorpe, A., see Jones, M., †101
Self, D. J., see Copeland, D. D., †100
Shapira, R., see Bornstein, M. B., †97
Shaw, C. M., see Alvord, Jr., E. C., †96
—, see Levine, S., *501
Sheff, M. F., see Zacks, S. I., †107
Shelanski, M., see Iqbal, K., †101
Sheppard, R. D., Raine, C. S., Feldman, L. A., Burnstein, T., and Bornstein, M. B., cell-associated strain of SSPE virus studied in organotypic CNS cultures, a, †87
Silberberg, D. H., scanning electron microscopy of organotypic rat cerebellum cultures, *189
—, see McKhann, G. M., †91
Simon, E., see Pearson, J., †101
Sipe, J. C., see VandenBerg, S. R., †94
Skoff, R. P., and Price, D. L., proliferation of reactive astrocytes in degenerating rat optic nerve, †83
Smith, A. L., see Nielsen, S. L., †90
Snyder, D. H., Raine, C. S., Valsamis, M. P., and Stone, S. S., experimental model for the study of chronic recurrent demyelination, an, †98
—, Valsamis, M. P., Stone, S. H., and Raine, C. S., progressive demyelination and reparative phenomena in chronic experimental allergic encephalomyelitis, *209
—, see Raine, C. S., †96
Sodium diethylthiocarbomate, neuroaxonal degeneration induced in central nervous

tissue cultures by, *531
Somjen, G. G., see Krigman, M. R., †100
Sowinski, R., see Levine, S., *335
—, see Levine, S., *501
Spatz, M., see Ito, U., †84
Specificity of experimentally produced ischemic neuronal changes, †111
Spence, A. M., see VandenBerg, S. R., †94
Spencer, P. S., and Schaumburg, H. H., experimental methyl n-butyl ketone neuropathy, †103
—, see Weinberg, H. J., †104
Spiro, A., see Wisniewski, H. M., †108
Spontaneous hemorrhagic necrosis of the central nervous system of fetal hamsters, †88
Staggerer, fine structure of cerebellum, *1
Stone, S. H., see Snyder, D. H., *209
Stone, S. S., see Snyder, D. H., †98
Striatonigral degenerations. putaminal pigments and nosology, the, †76
Studies on the biochemistry of demyelinative disease, †102
Sulfite oxidase deficiency, brain damaging metabolite cysteine-s-sulfate, *167
Supratentorial gliomas in children, †92
Sural nerve in familial dysautonomia, the, *413
Suzuki, K., and Zagoren, J. C., degeneration of oligodendroglia in the CNS of rats treated with AY9944 or Triparanol, †101
—, see Raine, C. S., †96
—, see Schaumburg, H. H., †82
—, see Zagoren, J. C., *375
Swenberg, J. A., Bigner, D. D., Hall, T. L., and Harbach, P. R., additive oncogenic effects of avian sarcoma virus and ethylnitrosourea, †99

Tadpole optic nerve: a simple model system for studying demyelination in the CNS, †95
Tagashira, Y., see Dodson, R. F., †109
Takei, J., see Mirra, S. S., †88
Tallman, J., see Max, S. R., †91
Tamiami virus induced central nervous system disease, effect of neonatal thymectomy on, *157
Tanaka, J., Garcia, J.H., Max, S. R., Viloria, J. E., Kamijyo, Y., McLaren, N. K., Cornblath, M., and Brady, R. O., cerebral sponginess and GM_3 gangliosidosis: ultrastructure and probable pathogenesis, *249
—, see Garcia, J. H., †84
—, see Max, S. R., †91
Tanaka, R., see Gilden, D. H., †79
Tarsy, D., see Chou, S. M., †81
Taylor, W., see Jones, M., †101
Teitelbaum, D., see Abramsky, O., *36
Tennekoon, G., see McKhann, G. M., †91
Terry, R. D., see Iqbal, K., †101
Thymectomy, neonatal, effect on Tamiami; virus-induced central nervous system disease, *157
Tindall, R., see Powell, H., †82
Togavirus encephalitis, experimental immunopathologic component in, *492
Triethyltin (TET) sulfate, neurotoxic effects on myelinating mouse spinal cord cultures, *401
Trump, B. F., see Garcia, J. H., †84
Tubular particles in a case of recurrent lymphocytic meningitis followed by amyotrophic lateral sclerosis, *133

Ultrastructural and enzyme histochemical studies in experimental portal-systemic encephalopathy, †78
— changes in rat optic nerve associated with hyperphenylalaninemia induced by parachlorophenylalanine and phenylalanine, *178
Ultrastructure of a "pineocytoma", *148
— acute mumps encephalitis in hamsters, the, †80
— axonal reaction in red nucleus of cat, *222
— neuronal inclusions in myotonic dystrophy, †108
Unusual distribution of central nervous system pathology in a human following carbon monoxide exposure, an, †109
— ultrastructural findings in PML (progressive multifocal leukoencephalopathy), †81
Urich, H., see Rubinstein, L. J., †76

Valsamis, M. P., see Snyder, D. H., †98
—, see Snyder, D. H., *209
VandenBerg, S. R., Herman, M. M., Spence, A. M., Sipe, J. C., Ludwin, S., and Bignami, A., experimental mouse testicular teratoma as a model for neuroepithelial neoplasia and differentiation, an, †94
Vascular changes in the senile brain, †89
Vessel to neuron transport within astrocytes, †82
Vice, W. M., Liss, L., Yashon, D., and Hunt, W. E., vessel to neuron transport within astrocytes, †82
Vick, N. A., and Bigner, D. D., gliomas induced by avian sarcoma virus (ASV): early and sequential structural events of the neoplastic transformation in vivo, †99
Viloria, J. E., see Garcia, J. H., †84
—, see Max, S. R., †91
—, see Tanaka, J., *249
Virus, avian sarcoma, induction of intracranial neoplasm in perinatal and adult rats, *340
Virus-like particles observed in rat central nervous system (CNS) tumors induced with Bratislava-77 avian sarcoma virus (B77-ASV), †99
Virus replication, herpes simplex, ultrastructural studies in suckling mice, *359
Vise, W. M., Liss, L., Yashon, D., and Hunt, W. E., astrocytic process: a route between vessels and neurons following blood-brain barrier injury, *324
Visna and EAE: comparative pathology and pathogenesis, †81
Vogel, F. S., see Copeland, D. D., †100
—, see Copeland, D. D., *340
Volk, B. W., see Adachi, M., †79
Vraa-Jensen, J., Herman, M. M., Rubinstein, L. J., and Bignami, A., genesis of rosette formation in a human ependy-

moma maintained in organ culture systems, †94

Walker, A. E., Diamond, E. L., and Moseley, J., neuropathological findings in irreversible coma, the, *295
Wallerian degeneration in the premature human, †92
Ward, J. D., see Hadfield, M.G., †92
Watanabe, I., Preskorn, S. H., Matovich, V. B., Rengachary, S., and Sato, T., demyelinating changes at the Schmidt-Lantermann cleft: a case report of polyneuropathy, †103
Webb, C., see Abramsky, O., *36
Webster, H. deF., Reier, P. J., Kies, M. W., and Wray, S. H., tadpole optic nerve: a simple model system for studying demyelination in the CNS, †95
Weinberg, H. J., Spencer, P. S., Hamburgh, M., and Raine, C. S., genetically-determined defects of PNS myelination in the mouse, †104
Weiner, L. P., see Herndon, R. M., †96
—, see McKhann, G. M., †91
Williams, M., see Cipolloni, P. B., †76
Wilson, C. B., see Hoshino, T., *263
Wilson, C. B. see Nielsen, S. L., *148
Wisniewski, H. M., Berry, K., and Spiro, A., ultrastructure of neuronal inclusions in myotonic dystrophy, †108
—, see Carolo, D. J., †98
—, see Iqbal, K., †101
—, see Rose, A. L., †105
Wobbler mouse, fine structure of cervical spinal cord, ventral root and brachial nerves, *12
Wolinsky, J. S., Baringer, J. R., Margolis, G., and Kilham, L., ultrastructure of acute mumps encephalitis in hamsters, the, †80
Worthington, K., see Dubois-Dalcq, M., †86
Wray, S. H., see Webster, H., deF., †95

Yao, J., see Dyck, P. J., †104
Yashon, D., see Vice, W. M., †82
—, see Vise, W. M., *324
Young, A. B., see Price, D. L., †106

Zacks, S. I., and Sheff, M. F., reversal of a hereditary myopathic lesion (MED) by transplantation of affected muscle, †107
Zagoren, J. C., Suzuki, K., Bornstein, M. B., Chen, S. M., and Suzuki, K., effect of hypocholesteroloemic drug AY9944 on cultured nervous tissue: morphologic and biochemical studies, *375
—, see Suzuki, K., †101
Zeltner, J. E., see Carolo, D. J., †98
Zeman, W., see Goebel, H. H., †107
Zimmerman, A. W., see Reier, P. J., *465
Zimmerman, H. M., see Roy, S., †111

JOURNAL

of

NEUROPATHOLOGY

and

EXPERIMENTAL NEUROLOGY

Founded by

G. B. Hassin, J. H. Globus, A. Ferraro, A. Weil

Volume XXXIV

1975

WAVERLY PRESS, Inc.
Baltimore, Md. 21202

EDITORIAL BOARD

ABNER WOLF
Editor-in-Chief

PAUL J. ANDERSON, *New York, N. Y.*
DAVID COWEN, *New York, N. Y.*
PHILIP E. DUFFY, *New York, N. Y.*
KENNETH M. EARLE, *Washington, D. C.*
IRWIN FEIGIN, *New York, N. Y.*
GEORGE JERVIS, *New York, N. Y.*
IGOR KLATZO, *Bethesda, Md.*
PETER LAMPERT, *La Jolla, Calif.*
SEYMOUR LEVINE, *New York, N. Y.*
EDWARD P. RICHARDSON, JR., *Boston, Mass.*
LEON ROIZIN, *New York, N. Y.*
HENRY DEF. WEBSTER, *Bethesda, Md.*
WOLFGANG ZEMAN, *Indianapolis, Ind.*

Advisory Board

RAYMOND D. ADAMS, *Boston, Mass.*
E. C. ALVORD, JR., *Seattle, Wash.*
STANLEY M. ARONSON, *Providence, R. I.*
JAMES AUSTIN, *Denver, Colo.*
ORVILLE T. BAILEY, *Chicago, Ill.*
LEO DAVIDOFF, *New York, N. Y.*
DEREK DENNY-BROWN, *Boston, Mass.*
J. FOLCH-PI, *Belmont, Mass.*
REINHARD L. FRIEDE, *Cleveland, Ohio*
LESTER M. GELLER, *New York, N. Y.*
N. K. GONATAS, *Philadelphia, Pa.*
WEBB HAYMAKER, *Moffet Field, Calif.*
ASAO HIRANO, *New York, N. Y.*
JAMES R. N. INNES, *Bethesda, Md.*
ROBERT KATZMAN, *New York, N. Y.*
MAVIS KAUFMAN, *New York, N. Y.*
JAMES W. KERNOHAN, *Rochester, Minn.*
LOWELL LAPHAM, *Rochester, N. Y.*
JOHN T. MCGRATH, *Philadelphia, Pa.*
GUY M. MCKHANN, *Baltimore, Md.*
NATHAN MALAMUD, *San Francisco, Calif.*
GEORGE MARGOLIS, *Hanover, N. H.*
FRED A. METTLER, *New York, N. Y.*
MATTHEW T. MOORE, *Philadelphia, Pa.*
COUNCILMAN MORGAN, *New York, N. Y.*
MARGARET R. MURRAY, *New York, N. Y.*
ERLAND R. NELSON, *Baltimore, Md.*
SANFORD L. PALAY, *Boston, Mass.*
LUCIEN J. RUBINSTEIN, *Palo Alto, Calif.*
DONALD L. SCHOTLAND, *Philadelphia, Pa.*
GEORGE SIEGEL, *New York, N. Y.*
SUN KYU SONG, *New York, N. Y.*
JOO HO SUNG, *Minneapolis, Minn.*
VIRGINIA TENNYSON, *New York, N. Y.*
ROBERT D. TERRY, *New York, N. Y.*
A. EARL WALKER, *Baltimore, Md.*
PAUL I. YAKOVLEV, *Boston, Mass.*
HARRY M. ZIMMERMAN, *New York, N. Y.*

Corresponding Editors

LUDO VAN BOGAERT, *Belgium*
MARIO GOZZANO, *Italy*
L. VAN DER HORST, *Holland*
H. OLIVECRONA, *Sweden*
DOROTHY RUSSELL, *England*
YUSHI UCHIMURA, *Japan*

COPYRIGHT, ©1975 BY THE ASSOCIATION OF THE JOURNAL OF NEUROPATHOLOGY AND EXPERIMENTAL NEUROLOGY, INC.

Second-class postage paid at Baltimore, Md. 21202

CONTENTS OF VOLUME XXXIV

NUMBER 1, JANUARY, 1975

The Fine Structure of Staggerer Cerebellum. A. HIRANO, M.D., and H. M. DEMBITZER, PH.D., Bronx, New York 1

The Fine Structure of the Cervical Spinal Cord, Ventral Root and Brachial Nerves in the Wobbler (wr) Mouse. J. M. ANDREWS, M.D., Los Angeles, California 12

Retinal Tumor Induction by Ocular Inoculation of Human Adenovirus in 3-Day Old Rats. N. MUKAI, M.D., and T. MURAO, M.D., Boston, Massachusetts 28

Neuritogenic and Encephalitogenic Properties of the Peripheral Nerve Basic Proteins. O. ABRAMSKY, M.D., D. TEITELBAUM, PH.D., C. WEBB, M.SC., and R. ARNON, PH.D., Rehovot, Israel 36

Dermatomyositis of Childhood. Ultrastructural Alterations of Muscle and Intramuscular Blood Vessels. B. Q. BANKER, M.D., Cleveland, Ohio 46

American Association of Neuropathologists 50th Annual Meeting, Boston, Massachusetts 76

Selected Neuropathological Titles 113

NUMBER 2, MARCH, 1975

Abundant Nuclear Rods in Adult-Onset Rod Disease. W. K. ENGEL, M.D., and M. A. OBERC, A. B., Bethesda, Maryland 119

Tubular Particles in a Case of Recurrent Lymphocytic Meningitis Followed by Amyotrophic Lateral Sclerosis. F. H. NORRIS, JR., M.D., M. J. AGUILAR, M.D., R.E. COULTON, M.D., M.B.A. OLDSTONE, M.D., and N. E. CREMER, PH.D., San Francisco, LaJolla, and Berkeley, California 133

Ultrastructure of a "Pineocytoma". S. L. NIELSEN, M.D., and C. B. WILSON, M.D., San Francisco, California 148

The Effect of Neonatal Thymectomy on Tamiami Virus-Induced Central Nervous System Disease. H. M. FRIEDMAN, M.D., D. H. GILDEN, M.D., R. A. ROSSA, PH.D., and N. NATHANSON, M.D., Philadelphia, Pennsylvania 157

Cysteine-S-Sulfate: Brain Damaging Metabolite in Sulfite Oxidase Deficiency. J. W. OLNEY, M.D., C. H. MISRA, PH.D., and T. DE GUBAREFF, M.S., St. Louis, Missouri 167

Ultrastructural Changes in Rat Optic Nerve Associated with Hyperphenylalaninemia Induced by Para-Chlorophenylalanine and Phenylalanine. L. AVINS, M.D., G. GUROFF, PH.D., and T. KUWABARA, M.D., Bethesda, Maryland 178

Scanning Electron Microscopy of Organotypic Rat Cerebellum Culture. D. H. SILBERBERG, M.D., Philadelphia, Pennsylvania 189

Selected Neuropathological Titles 200

NUMBER 3, MAY, 1975

Progressive Demyelination and Reparative Phenomena in Chronic Experimental Allergic Encephalomyelitis. D. H. SNYDER, M.D., M. P. VALSAMIS, M.D., S. H. STONE, D. SC., and C. S. RAINE, PH.D., Bronx, New York 209

Ultrastructure of Axonal Reaction in Red Nucleus of Cat. K. D. BARRON, M.D., M. P. DENTINGER, M.D., L. R. NELSON, M.D., and J. E. MINCY, M.D., Albany, New York 222

Cerebral Sponginess and GM_1 Gangliosidosis: Ultrastructure and Probable Pathogenesis. J. TANAKA, M.D., J. H. GARCIA, M.D., S. R. MAX, PH.D., J. E. VILORIA, M.D.,

Y. KAMIJYO, M.D., N. K. MCLAREN, M.D., M. CORNBLATH, M.D., and R. O. BRADY, M.D., Baltimore, Maryland 249

Gemistocytic Astrocytes in Gliomas: An Autoradiographic Study. T. HOSHINO, M.D., C. B. WILSON, M.D., and W. G. ELLIS, M.D., San Francisco, California 263

The Fine Structure of Hyaline Inclusions (Psuedopsammoma Bodies) in Meningiomas. J. J. KEPES, M.D., Kansas City, Kansas 282

Selected Neuropathological Titles 290

NUMBER 4, JULY, 1975

The Neuropathological Findings in Irreversible Coma. A. E. WALKER, M.D., E. L. DIAMOND, PH.D., and J. MOSELEY, M.D., Albuquerque, New Mexico 295

Astrocytic Process: A Route Between Vessels and Neurons Following Blood Brain Barrier Injury. W. M. VISE, M.D., L. LISS, M.D., D. YASSON, M.D., and W. E. HUNT, M.D., Columbus, Ohio 324

Choroid Plexus Isografts in Rats. S. LEVINE, M.D., and R. SOWINSKI, M.D., New York, New York 335

The Induction of Intracranial Neoplasms by the Inoculation of Avian Sarcoma Virus in Perinatal and Adult Rats. D. C. COPELAND, M.D., F. S. VOGEL, M.D., and D. D. BIGNER, PH.D., Triangle Park, North Carolina 340

Herpes Simplex Virus Encephalitis in Suckling Mice: Ultrastructural Studies of Virus Replication. J. SCHWARTZ, PH.D., and T. S. ELIZAN, M.D., New York, New York . 359

Selected Neuropathological Titles 369

Announcement 373

Obituary 374

NUMBER 5, SEPTEMBER, 1975

Effect of Hypocholesterolemic Drug AY9944 on Cultured Nervous Tissue: Morphologic and Biochemical Studies. J. C. ZAGOREN, M.S., K. SUZUKI, M.D., M. B., BORNSTEIN, M.D., S. M. CHEN, M.S., and K. SUZUKI, M.D., Bronx, New York 375

Neuropathologic Effects of Intrathecal Water. J. M. KELLY, M.D., A. K. ASBURY, M.D., and J. S. KING, M.D., Philadelphia, Pennsylvania 388

The Neurotoxic Effects of Triethyltin (TET) Sulfate on Myelinating Cultures of Mouse Spinal Cord. D. I. GRAHAM, M.B., CH.B., PH.D., S. U. KIM, PH.D., N. K. GONATAS, M.D., and L. GUYOTTE, B.S., Philadelphia, Pennsylvania 401

The Sural Nerve in Familial Dysautonomia. J. Pearson, M.D., J. DANCIS, M.D., F. AXELROD, M.D., and N. GROVER, D.D.S., New York, New York 413

Brain Ultrastructure in Reye's Syndrome (Encephalopathy and Fatty Alteration of the Viscera). J. C. PARTIN, M.D., J. S. PARTIN, M.S., W. K. SCHUBERT, M.D., and R. L. MCLAURIN, M.D., Cincinnati, Ohio. 425

Neurofibrillary Changes Following Childhood Lead Encephalopathy. Case Report. W. J. NIKLOWITZ, PH.D., and T. I. MANDYBUR, M.D., Indianapolis, Indiana, and Cincinnati, Ohio 445

Selected Neuropathological Titles 456

NUMBER 6, NOVEMBER, 1975

Myelin Deficiency in Hereditary Pituitary Dwarfism: A Biochemical and Morphological Study. P. J. REIER, PH.D., J-M. MATTHIEU, M.D., and A. W. ZIMMERMAN, M.D., Bethesda, Maryland 465

The Occurrence and Characteristics of Non-Myelinated Neuromas Within Central Nervous Tissues. I. FEIGIN, M.D., and G. BUDZILOVICH, M.D., New York, New York .. 478

An Immunopathologic Component in Experimental Togavirus Encephalitis. D. L. CAMENGA, M.D., and N. NATHANSON, M.D., Atlanta, Georgia, and Baltimore, Maryland 492

Do Neurological Signs Occur in Experimental Allergic Encephalomyelitis in the Absence of Inflammatory Lesions of the Central Nervous System? S. LEVINE, M.D., R. SOWINSKI, M.S., C-M. SHAW, M.D., and E. C. ALVORD, JR., M.D., New York, New York, and Seattle, Washington 501

Fluorescence Histochemical and Ultrastructural Studies of Locus Coeruleus of Human Fetal Brain. B. H. CHOI, M.D., D. MED., SCI., D. S. ANTANTITUS, B.S., and L. W. LAPHAM, M.D., Rochester, New York 507

Quantitative Ultrastructural Studies of the Axon-Schwann Cell Abnormality in Soinal Nerve Roots From Dystrophic Mice. G. M. BRAY, M.D., and A. J. AQUAYO, M.D., Montreal, Canada 517

Neuroaxonal Degeneration Induced by Sodium Diethyldithiocarbamate in Cultures in Central Nervous Tissue. S. U. KIM, M.D., PH.D., and N. RIZZUTO, M.D., Philadelphia, Pennsylvania 531

Selected Neuropathological Titles 542

Index to Volume XXXIV 551